

CALIFORNIA ENERGY COMMISSION
Load Curtailment Systems
Global Energy Partners Project Summary

Project Description:

Global Energy Partners recruited over 221 customers representing over 400 building sites to participate in the Energy Commission's Peak Load Reduction Program. Customers who signed up for this program had their computers and energy management systems integrated into the Global Energy Partners' Power Pact system. Based on predefined peak reduction strategies, this system provided emergency signals to customers via email, pagers and phone links to request curtailment of key building systems. Global Energy Partners also provided walk through peak reduction audits to customers upon request and assisted in the upgrade of customer energy management systems. Their target was to recruit a large enough customer base to provide 12 megawatts of peak load reductions in response to emergency signals during stage 2 or stage 3 electricity emergencies.

Participating customers included a variety of city and county buildings, (County of Los Angeles, the Association of Bay Area Governments, and the cities of Oakland and San Jose), private colleges, and private office buildings. These customers have remained a part of the Power Pact system in 2003 and stand ready to provide emergency load reductions if there is an additional power emergency in the summer of 2002.

Funding Summary:

The overall project cost was \$1,400,000, or \$123.90 per saved kilowatt. Funding distribution included 38% to develop the program, recruit customers, provide walk through audits and train the customers in the use of the new control systems, 36% to purchase hardware and software for the metering and communication systems, 12% for maintenance of the network and communication network, with the balance of the funds used to support project reporting and analyses.

Project Results:

A pilot test independently conducted by Nexant, Inc., demonstrated a peak load reduction of 11.3 megawatts. These peak savings are roughly 12% of the maximum peak demand for these customer facilities. Customers reported achieving additional permanent peak savings of 5 to 10% of their 2000 baseline energy bills from the use of this new energy management and monitoring information provided by the project.

Lessons Learned:

Customers were willing to provide significant levels of peak demand relief, on the order of 15 to 30% of their peak demand during a crisis. These savings were achieved by increasing thermostat set points and reducing or dimming lighting levels. Customers

were willing to use the internet medium to receive emergency signals, analyze their response options and receive feedback on the level of load reduction achieved within 24 hours of the signal. However, many customers were unwilling to automate the level of reductions achieved through a direct signal and preferred that the local energy engineer have some input into what systems should be affected by a curtailment request, particularly over a four hour curtailment period.

Contact Information

Global Energy Partners

Greg Wikler, 925.284.3780

California Energy Commission

Michael Messenger, 916.654.4774